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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,603	06/27/2003	Curtis A. Richardson	89190.022103/DP309242	7612
22851	7590	09/15/2005	EXAMINER	
DELPHI TECHNOLOGIES, INC.			ALEJANDRO, RAYMOND	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			1745	

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/607,603

Applicant(s)

RICHARDSON ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 06/27/03. These drawings are acceptable.

### *Specification*

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract *not exceed 150 words in length since the space provided* for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

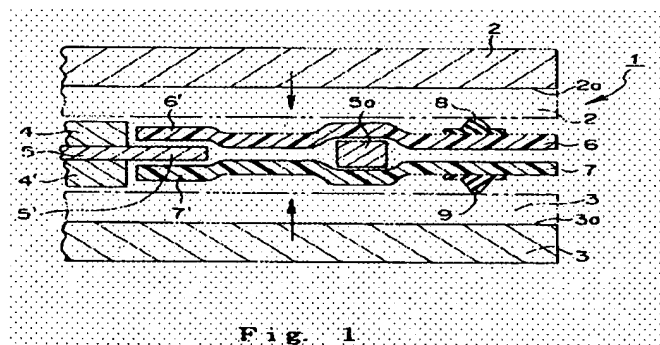
4. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by the WO 01/17048 publication (hereinafter referred to as "*the WO '048 publication*"). (**Note:** *US patent 6720103 to Nagai has been herein employed and cited as it belongs to the same family patent of WO '048 publication and was published in English language*).

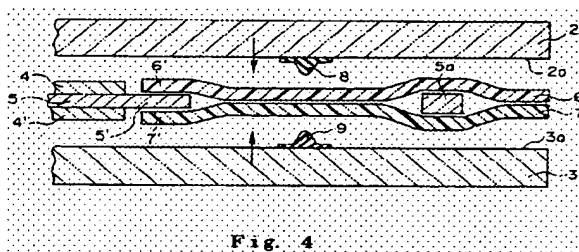
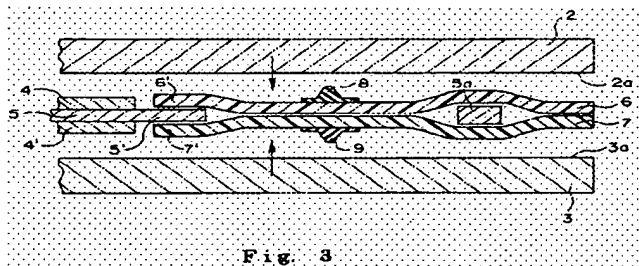
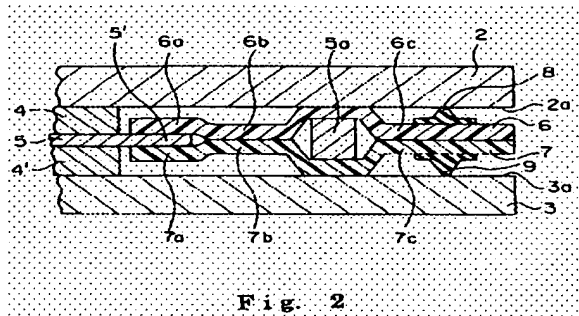
As to claims 1 and 2:

Nagai (the WO'048 publication) discloses a pair of counter-posed gasket sheets 6 and 7 supporting an MEA (*membrane electrode assembly*) (ABSTRACT). Nagai discloses the use of two integrated members of gasket sheets being counterposed to each other so that the gasket can face each other, and the extruded peripheral part of an electrolyte membrane is inserted into between the inner peripheral pinching parts of the frame-shaped gasket sheets (COL 4, lines 3-15). Thus, the region where the electrolyte membrane is inserted constitutes the opening.

Nagai also discloses that spacer sheet 5a is inserted between the gasket sheets (COL 4, lines 10-15). Thus, MEA is supported by the gasket sheets through spacer 5a and hence, MEA can be easily and accurately positioned while keeping the specific pressure constant (COL 4, lines 20-30).

**Figures 1-4** below depict the specific structure of the gasket body formed by sheets 6 and 7 and comprising planar and non-planar regions. As evident from Figure 2 below, spacer 5a is inserted between gasket sheets 6 and 7 and an empty space is formed therebetween. *That empty space is considered to constitute an air hole.* Thus, the gaskets also form the gas-filled pillow structure for sealing the joint therebetween.





With reference to claim 2

As evident from FIGURES 1-4 above, the gasket sheets includes a concavity structure (See FIGURES 1-4).

On the matter of claims 4 and 5:

Nagai describes how an MEA is supported by the gasket sheets (COL 4, lines 3-30); and the fuel cell stack (COL 3, lines 12-18). *Thus, Nagai envisions using the gasket sheets to contact or directly face a fuel cell stack component.*

As a consequence, the present claims are anticipated.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the WO 01/17048 publication (hereinafter referred to as "*the WO '048 publication*"). (***Note: US patent 6720103 to Nagai has been herein employed and cited as it belongs to the same family patent of WO '048 publication and was published in English language***) as applied to claim 2 above, and further in view of Franklin 2004/0053099.

Nagai (the WO'048 publication) is applied, argued and incorporated herein for the reasons above. However, the preceding prior art does not expressly disclose the specific metal gasket material.

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Franklin et al disclose a fuel cell comprising a gasket comprising a plastic polymer material, an elastomeric material, a composite material, a metal or combinations thereof (CLAIMS 10 and 22).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to use the specific metal gasket material of Franklin et al in the gasket of Nagai as Franklin et al teach the such metal gasket material allows for suitable electrical and mechanical contact. Thus, gaskets made of metallic materials incorporate metallic elements which provide satisfactory mechanical integrity while also furnishing electrically conducting characteristics complying with the electrical requirement of fuel cell configurations.

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the WO 01/17048 publication (hereinafter referred to as "*the WO '048 publication*"). (Note: *US patent 6720103 to Nagai has been herein employed and cited as it belongs to the same family patent of WO '048 publication and was published in English language*) as applied to claim 5 above, and further in view of Inagaki et al 2003/0150162.

Nagai (the WO '048 publication) is applied, argued and incorporated herein for the reasons above. However, the preceding prior art does not expressly disclose the specific vehicle.

Inagaki et al disclose a seal arrangement for fuel cells including a seal portion in the form of a gasket (ABSTRACT/SECTIONS 0010-0012). In particular, it is disclosed that seal arrangement is employed in a solid polymer electrolyte fuel cell, which is installed in, a fuel cell vehicle, but may be used in other applications (SECTION 0028).

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In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to use the fuel cells of Nagai in vehicles as Inagaki et al disclose that fuel cell arrangement using gasket elements are installed in vehicles among other applications. Particularly, fuel cells are electrochemical apparatus capable of generating electrical energy through chemical conversion, and thus, such generated energy is effectively employed in power consuming vehicles.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro  
Primary Examiner  
Art Unit 1745

  
RAYMOND ALEJANDRO  
PRIMARY EXAMINER